

February 10, 1954

Dr. Oster
Brooklyn Polytechnic Institute
99 Livingston Street
Brooklyn 2, N.Y.

Dear Dr. Oster:

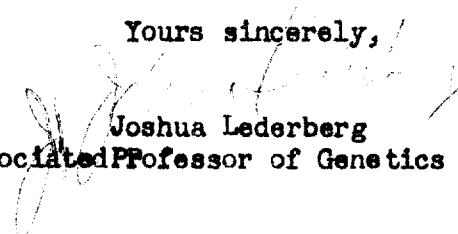
Dr. P. Grabar, during a recent visit, was kind enough to refer me to you for information on interactions of proteins with acridine dyes. He informed me that you had been studying such an interaction with a serum albumin component.

We have been studying the differential reaction of the flagella of Salmonella species with acriflavine: organisms in phase-2 are agglutinated, in phase-1 they are not. In preliminary experiments, the flagella isolated from the bacteria have had a concordant behavior.

We have been able to find very little work on the subject in the literature. If you could refer me to your own work, or to other studies on the mechanism of such binding, I would be grateful to you. I am also especially concerned with the techniques that might be employed in elucidating the mechanism. As a first approximation, one might guess that a marked difference in the isoelectric points of the proteins of the flagella of the two phases might account for the effect, and we hope to look for this. There may be much more to the story: a tetra-hydro derivative (provided by Adrien Albert) failed to agglutinate, in contrast to the parent acridine: and both compounds had approximately the same pK.

I might emphasize that this study has been carrying us far more deeply into physico chemical aspects than we had intended (or are competent for). But flagella may be, on the whole, too difficult material, particularly with respect to the preparation of the isolated protein.

Yours sincerely,


Joshua Lederberg
Associated Professor of Genetics